

REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested.

Currently, claims 1-32 are pending in this application.

Rejection Under 35 U.S.C. §112, Second Paragraph:

Claims 14-22 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. By this Amendment, claims 14 and 22 have been editorially amended to add further clarity. In particular, claim 14 has been amended so that it is clear that steps are performed by a data processing apparatus. Claim 22 has been clarified to make sure that the recited functionality would apply to either or both of (i) and (ii). Applicant thus respectfully requests that the rejection under 35 U.S.C. §112, second paragraph, be withdrawn.

Rejections Under 35 U.S.C. §102 and §103:

Claims 1-18 and 23-26 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Levinson (U.S. '260). Applicant respectfully traverses this rejection.

Anticipation under Section 102 of the Patent Act requires that a prior art reference disclose every claim element of the claimed invention. See, e.g., *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1574 (Fed. Cir. 1986). Levinson fails to disclose every element of the claimed invention. For example, Levinson fails to disclose receiving a fuzzy logic statement associated with a processable event, the fuzzy logic statement identifying the duration and a start time thereof, and applying a predetermined fuzzy function to convert the received fuzzy logic statement into temporal preference information, as required by independent claim 1 and its dependents. Levinson also fails to disclose "converting the fuzzy logic statement into temporal preference information

associated with the processable event in accordance with a predetermined fuzzy function,” as required by independent claim 14 and its dependents. Similar comments apply to independent claim 26.

Levinson relates to an automatic planning and cueing system with the ability to re-plan a user’s schedule to take account of unexpected events. Levinson’s system plans the user’s schedule using tasks, and each task is explicitly defined by an earliest start time, a latest stop time and a duration equal to the time required for a user to complete a task. Each task also has an associated priority which is used by the planning system to resolve conflicts between tasks for a given time slot. The priority of each task is therefore merely used by the planning system to determine the order in which tasks are allocated to the schedule in case of overlap. The priority associated with each task does not specify a preferred start time for a task.

Tasks may be *fixed* tasks or *floating* tasks. A *fixed* task has a task duration that is equal to the time period between the earliest start time and the latest end time so that there is no time during which either the start time or stop time may slip (i.e., no slack time). (Column 6, lines 42-45 of Levinson). A *floating* task has a task duration that is shorter than the time period between the earlier start time and the latest stop time (e.g., some slack time) so that the actual start time or stop time may be adjusted to compensate for changes in a user’s plan. (Column 6, lines 46-50 of Levinson).

The operation of Levinson’s system is described in column 16, line 44 to column 19, line 58. For example, the “lunch” task is a floating task having an earliest start time of 12 pm, a latest stop time of 2 pm, a duration of 30 minutes and a priority of 2. Another task, “computer lab”, is a floating task having an earliest start time of 12 pm, a latest stop

time of 4 pm, a duration of 90 minutes and priority of 3. Both tasks have an earliest start time of 12 pm. However, the “lunch” task has a higher priority than the computer lab task, so the “lunch” task is handled by the system before the “computer lab” task. As shown in Table 1, the “lunch” task is scheduled to run between 12 pm and 12:30 pm, and the “computer lab” task is scheduled to run between 12:30 and 2pm.

When the user adds a “library” floating task having an earliest start time of 12 pm, a latest stop time of 2 pm, a duration of 30 minutes and a priority of 2, the planning system allocates a time slot of 12:30 to 1 pm for the “library” tasks and delays the scheduled times for the “computer lab” task so that it is performed at 1 pm to 2:30 pm. Similarly, other later tasks are delayed if necessary.

When a task is added which causes later tasks to extend beyond their latest end time, the later task may be rescheduled for another day, made shorter than its specified duration or cancelled. (Column 18, line 62 to column 19, line 58 of Levinson).

In contrast to Levinson, the present invention receives a fuzzy logic statement from, for example, a user. A predetermined fuzzy function is applied to convert the fuzzy logic statement into temporal preference information. The fuzzy logic statement may define, for example, a fuzzy duration such as “around 1 hour.” (See page 19, lines 4-25 of the present specification). As another example, the fuzzy logic statement may define a fuzzy time such as “early morning” time. (See page 20, lines 12-30 of the present specification). The present invention is thus capable of using fuzzy logic as an artificial intelligence aid to allocate times in a schedule.

As a more detailed example, the present system/method may receive a user-selected fuzzy definition for the start time of an event such as “early morning”. The

system assumes that time slots from 8 am to 9:30 am are within range and each of them is given a fuzzy ranking between 0 and 1. The time slot of 8:30 am is preferred and given a fuzzy ranking of 1. The time slot of 8:00 am is next preferred and given a ranking of 0.75. This is followed in preference by the 9:00 am time slot which is given a ranking of 0.5, and the time slot of 9:30 am is least preferred, with a ranking of 0.25. (See page 20 lines 12 to 30 of the present specification).

In Levinson, each task must be explicitly defined by a specifically-identified earliest start time, a specifically-identified latest end time and a specifically-identified duration. (See column 6, lines 36 to 39). For example, to specify a task which may occur in “early morning”, the user must explicitly provide a specifically-identified earliest start time of 8 am, a specifically-identified latest stop time of 9:30 am, and a specifically-identified duration of 30 minutes. Received input in Levinson’s system therefore does not involve a fuzzy logic statement, or application of a predetermined fuzzy function to convert the fuzzy logic statement. Furthermore, Levinson does not provide any technique for specifying a “preferred” start time in addition to the earliest start time, let alone an order of preference. The planning system allocates the tasks to any time slot within the specified range with no regard to preference.

The Office Action has apparently relied upon the priority associated with each task as alleged disclosure of feature (iv) of claim 1, including applying a predetermined function to convert the fuzzy logic statement into temporal preference information. However, the priority of each task is merely used by the planning system to determine the order in which tasks are allocated to the schedule in case of overlap, the priority associated with each task does not specify a preferred start time for a task.

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Accordingly, Applicant respectfully requests that the rejection of claims 1-18 and 23-26 under 35 U.S.C. §102(e) over Levinson be withdrawn.

Claims 19-22 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Levinson. Since claims 19-22 depend at least indirectly from claim 14, Applicant submits that these claims are allowable for at least the reasons discussed above with respect to base claim 14. Applicant thus respectfully requests that the rejection under 35 U.S.C. §103 be withdrawn.

Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

NIXON & VANDERHYTE P.C.

By: 

Raymond Y. Mah
Reg. No. 41,426

RYM:sl
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4044
Facsimile: (703) 816-4100